

## ABSTRACT OF THE DISCLOSURE

1 An optical imager, such as a microscope for performing multiple frequency  
2 fluorometric measurements comprising a light source, such as a laser source is  
3 disclosed. The system is used to excite a sample into the fluorescent state. Light  
4 from the excited sample is collected by a microscope. The microscope utilizes  
5 conventional confocal optics optimized to have a very narrow depth of field, thus  
6 limiting the information collected to a thin planar region. Measurements are taken  
7 over the fluorescence lifetime of the sample simultaneously from the excitation  
8 source and from the excited sample. Information is taken in a matrix and  
9 comparison of the image matrix and the standard during simultaneous  
10 measurements yields output information.  
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